

不同CO₂浓度对豇豆光合特性和若干生理生化指标的影响林碧英¹, 张瑜², 林义章¹, 肖钊¹¹ 福建农林大学园艺学院, 福建福州 350002; ² 福建省农业区划研究所, 福建福州 350003Effects of CO₂ concentration on photosynthetic characteristics and physiological and biochemical indices of cowpeaLIN Bi-Ying¹, ZHANG Yu², LIN Yi-Zhang¹, XIAO Zhao^{1*}¹ College of Horticulture, Fujian Agriculture and Forestry University, Fuzhou 350002, China;² Institute of Agriculture Regional Planning of Fujian Province, Fuzhou 350003, China[摘要](#)[参考文献](#)[相关文章](#)Download: [PDF \(673KB\)](#) [HTML 1KB](#) Export: [BibTeX](#) or [EndNote \(RIS\)](#) [Supporting Info](#)

摘要 在南方温室栽培环境下, 研究不同CO₂浓度对矮生豇豆幼苗叶片光合特性和生理生化指标的影响。结果表明, 不同CO₂浓度下, 豇豆叶片光合色素、可溶性糖和可溶性蛋白质含量随CO₂浓度的升高均有不同程度的提高。高CO₂浓度还明显提高叶片的光合速率, 但蒸腾速率则较对照CK有所下降。在不同CO₂浓度下, 超氧化物歧化酶、过氧化物酶、过氧化氢酶活性变化较大, 且均以CO₂浓度为1200 mL/m³时活性最高。高浓度CO₂使得豇豆叶片中的丙二醛含量明显降低。

关键词: 豇豆 CO₂浓度 光合特性 生理生化指标

Abstract: The effects of CO₂ concentrations on photosynthetic characteristic and biochemical indices at the dwarf cowpea seedlings were studied in the South Greenhouse. The results show that, under different CO₂ concentrations, the photosynthetic pigment content, soluble sugar content and soluble protein content increased to a different extent with the increase of CO₂ concentrations. High CO₂ concentrations could prominently increase the photosynthetic rate of cowpea, while decrease the transpiration rate compared with the control. SOD, POD, and CAT varied remarkably under different CO₂ concentrations. The maximum enzyme activities were observed at CO₂ concentration 1200 mL/m³. The MDA content decreased significantly in cowpea leaves at the higher concentrations of CO₂.

Keywords: cowpea CO₂ concentration photosynthetic characteristics physiology and biochemistry indices

Received 2010-06-08; published 2011-06-24

Fund:

福建省科技厅重点项目(2007N0005) 国家支撑项目(2007BAD07B03); 省部级项目

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引用本文:

林碧英 张瑜 林义章 肖钊. 不同CO₂浓度对豇豆光合特性和若干生理生化指标的影响[J] 植物营养与肥科学报, 2011, V17(4): 964-969LIN Bi-Ying ZHANG Yu LIN Yi-Zhang XIAO Zhao. Effects of CO₂ concentration on photosynthetic characteristics and physiological and biochemical indices of cowpea[J] Acta Metallurgica Sinica, 2011, V17(4): 964-969

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